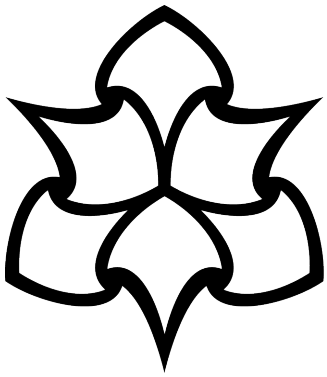

# Games in the Curriculum

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**Abstract**

This paper reports the outcomes of the Scholarship of Teaching and Learning project 'Games in the Curriculum'. The project focussed on the use of 'off the shelf' tabletop games in Higher Education. We examined the use of games in six different settings, working in three faculties and with four year groups (levels 3, 5, 6 and 7). Our findings suggested that the strength of tabletop games lies in the creation of a 'safe space' in which to engage in discussions of complex, and at times contentious, topics and in enabling students to take control of their own learning. At the same time, the project findings suggest that 'game literacy' amongst students and staff should not be assumed, and that it is important to not overestimate the level of enthusiasm engendered by 'playful' activity. Finally, issues of cost (in terms of staff time and materials), while low in comparison to digital games, remain a significant factor.

**Introduction**

Nadolski et al. (2008:338) argue that *"societal changes demand educators to apply new pedagogical approaches"*, suggesting that the use of games might provide one way to address these challenges. Nerantzi and James advance a similar argument in the introduction to their special issue of *Creative Academic*, 'Exploring Play in Higher Education' in which they argue that *"play is a very sophisticated way humans of all ages learn, develop and grow"* (2015:5) before going on to note a certain resistance to play within a Higher Education (HE) setting. Whitton and Moseley have made a case for using play in education, but note the difficulty educators face in finding *"games that meet their exact pedagogic needs, and cover the required curricular goals"* and indicate *"a need to move beyond the typical model of high-end computer games for learning"* (2012:19). Our research project 'Games in the Curriculum' responds to these suggestions and challenges, through an exploration of the ways in which tabletop board games might enable learning of subject-specific skills in the HE sector, advancing the argument that the affordances of non-digital games indicate a potential for alternative – or supplementary – modes of game-based learning.



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Parlett notes that:

> *'"Board' derives from a word originally meaning 'plank', and secondarily 'table', as in the phrase 'bed and board'. So, in a broad sense, a board game is any that can be played on a flat surface such as a table or floor."* (1999:5)

Our project begins with a similarly broad definition, which is useful for both its inclusivity and for the emphasis it places on the setting (which for us is educational), in which these games are played. As discussed by Lean et al. (2018), tabletop games offer a degree of sociability, adaptability and tactility that is not always present in videogames, and provide a form of interaction (with the games themselves and crucially with other players) that differs in several ways from the experience of playing videogames. Perhaps most importantly, tabletop games create a shared space in which complex topics can be discussed and debated, and it is this capacity to create dialogue that makes them such a productive means for learning.

The key aim of this project is to explore the possible benefits of using tabletop games in a HE setting. Specifically, we are interested in their use in small group work, and the ways in which they might enable students to engage with complex ideas related to their chosen area of study. In responding to this brief our objectives are:

1. To examine the possibility of meeting subject-specific learning outcomes using commercially available tabletop games;

2. To identify a range of tabletop games suitable for use with undergraduate and postgraduate students.

These objectives relate closely to the first two of the six Principles of Manchester Metropolitan's Education Strategy (CELT, 2018). In setting out to develop innovative ways of engaging our students, this project arose from a commitment to provide *"an academically rigorous curriculum that places students at its heart"* (1.1). It is a contention of the project that engaging with tabletop games, when based in rigorous academic principles, has the potential to promote *"interactive and creative teaching"* (1.2) and enhance the classroom experience. Derived in part from the growing body of research on games and gaming, and responding directly to student interest in this area, the project also aimed to integrate *"teaching on courses with research"* (2.2) to provide an experience that enables *"students to develop their intellectual powers, creativity, independent judgement,*

*critical self-awareness, imagination, and personal skills"* (2.3).

In addition to focussing on the student experience, this project responds to Principle 6 of the Education Strategy, that *"Staff are lifelong learners, fully engaged with their own professional development"* by bringing together academics with a diverse range of skills to collaborate in the *"development of teaching and assessment practices with peers"* (6.3). In adopting this approach, this project aims to build on the work of Herro and Clark (2016), in regarding game-based learning in HE as promoting interdisciplinary teaching and research.

In exploring the use of tabletop games in HE, our aim was to establish the role such games might play in engaging and empowering our students, while delivering an academically rigorous curriculum. The hypothesis we set out to test was that playing games, and playing with games, affords students the opportunity to interrogate the ways in which knowledge is constructed, regulated, and communicated.

**Methodology**

In order to test the hypothesis outlined above, we worked with unit leaders from across Manchester Metropolitan University to develop a series of seminar activities for delivery during their units in the academic year 2017/18. In total, sessions were developed for six different units:

1. 'EdLab – Practice and Innovation' – Level 3 students from the Faculty of Education, studying for a BA in Education

2. 'Fantasy' - Level 5 students from the Faculty of Arts and Humanities studying for a BA in Film and Media

3. 'Natural Resources and Pollution' – Level 5 students from the Faculty of Science and Engineering, studying for a BSc in Environmental Science

4. 'Reading and Writing Games' – Level 6 students from the Faculty of Arts and Humanities studying for a BA in English

5. 'Practical Science Communication' – Level 7 students from the Faculty of Science and Engineering, studying for an MSc in Science Communication

6. 'SciArt' – Level 7 students from the Faculty of Arts and Humanities studying for Masters level degrees in Arts related subjects.

For each of these units a similar approach was adopted. We began by working with the unit leader to discuss the desired learning outcomes for the seminar; based on these discussions we then selected a range of commercially available games that had the potential to facilitate subject-specific learning outcomes. With the exception of one of these sessions (see Case Study One), commercially available (off-the-shelf) games were chosen, as these are games that any educator could potentially acquire, would mean that this approach could theoretically be adaptable to other learning environments, which would not be the case with bespoke 'edu-games'. After a shortlist of games had been identified, we worked with the unit leaders to pick a single game that could be used for the seminar. Our rationale for using multiple copies of the same game was to ensure that students would be able to participate in meaningful discussions after playing the games. This decision was made following our first project (delivered on the 'Fantasy' unit) in which the use of a wide selection of games appeared to have a negative impact on the coherence of the post-game discussions. Moreover, the use of a single game has a positive impact on the logistics of the session; increasing the likelihood that different groups will complete their games a roughly the same time, and reducing the demands placed on the facilitator.

After the game for the session had been selected, we again worked with the unit leaders to design lesson plans that centred around playing these games, and which included time for pre- and post-game discussions, to ensure that the learning outcomes for each of the sessions could be highlighted and responded to by the students.

**Case Studies**

We now present a series of three brief case studies, each of which serve to highlight the work undertaken in this project. We chose these out of the six different sessions that we developed, as we found them to be the most revealing in terms of the two main objectives for this study.

***Case Study One: Catan and global warming***

This case study involved Level 5 Environmental Science undergraduate students, and was delivered as part of the 'Natural Resources and Pollution' (NRP) unit. The purpose of this session was to enable a better understanding of global climate impacts,

and in particular how environmental change can produce negative and positive feedback mechanisms in the global climate system. Furthermore, it presented students with opportunities for skills development and independent thinking around the natural environment. In order to achieve these objectives, students played *Catan: Global Warming* (Figure 1), a tabletop game that was developed by the authors to communicate Global Warming to varied audiences. This game represents a new scenario for the commercially available tabletop game *Catan*, with rule changes introduced to encourage cooperation and generate dialogue around resource production and global warming.

Prior to the session, the students were provided with the rules to the *Catan: Global Warming* scenario, and were asked to watch a short video explaining the rules of the original version of *Catan*. Students were asked to complete these tasks so that during the session more time could be spent on discussions rather than explaining how to play the game. These resources were made available to the students via Moodle several weeks before the session, and an announcement was sent to inform them about the session and its proposed contents.

Prior to playing the game, a discussion was facilitated to introduce the students to the authors, and to determine their knowledge and understanding around the subject of global warming. Similarly, after playing the game, an extended discussion was planned which enabled the students to evaluate the effectiveness of the game in terms of its representation of global warming and the physical environment.

Figure 1: students take part in the Catan: Global Warming game.

The session was delivered during the usual three-hour time slot for this unit, to a total of 11 students. Given that the class size for this unit was normally 35 this represented a very low turnout, which according to the unit leader was not the norm for these students. The students attending the session were very engaged, and contributed meaningful and insightful comments during the pre- and post-game discussions. Through observing and talking to the students it was clear that they enjoyed both the game and the structure of the session, and all of them managed to achieve the specific learning objectives. However, none of them had either watched the video or read the rulebook, despite confirming that they had access to them on Moodle, and were aware that they should have done so. Combined with the low attendance of the session, this lack of pre-engagement indicates an issue that clearly needs addressing. It was clear, as has been noted by Whitton (2014:92-3), that the motivational aspect of 'play' should not be overestimated in educational contexts, and that work must be undertaken to convince students (and educators) that playing games is meaningful and can have genuine value to their learning and development.

The notion that games are a 'distraction' has a long history that sees games (and more specifically, play) aligned with childhood and set apart from the 'real' world. As Huizinga, whose description of play's 'magic circle' has had a lasting influence, puts it, *"play is distinct from 'ordinary' life both as to locality and duration"* (2016:9). Games, in such a reading, might be regarded, as Caillois puts it, as *"unproductive"* (2001:10). More recent work on games challenges the notion that games operate in isolation from society as a whole (Salen and Zimmerman 2004; Mäyrä 2008; Bown 2018). Accordingly, when Salen and Zimmerman ask, *"just how permeable is the boundary between the real world and the artificial world of the game that is circumscribed and delimited by the magic circle?"* (2004:96) our answer is necessarily twofold. On the one hand, we would argue that the nature of play as being *"an act apart"* (Huizinga 2016:10) is what makes games such a productive space in which to explore complex, and often contentious, issues (see also De Koven, 1978). On the other hand, we wish to argue that the intersection of players, games, and their contexts makes possible meaningful (productive) educational activity.

One recommendation to address the potential issue of a perceived lack of productivity as it relates to play, would be for game facilitators to attend prior sessions for the selected units. This would enable those delivering the session to discuss the pedagogic benefits

of using tabletop games, and the potential that they have to enhance the teaching and learning experience. A more meaningful intervention, and one that was beyond the scope of this project, would be to embed games more clearly in course design, linking their use directly to learning outcomes and assessment. In such a model, it might be beneficial to invite students to join the process of creating game-resources, perhaps following a 'flipped learning' model (Bergmann and Sams, 2012) and/or models of 'peer instruction' (Crouch and Mazur, 2001), as games designers and reflective learners.

***Case Study Two: Narrative and remediation***

This case study took place as part of the Level 6 unit 'Reading and Writing Games', which is delivered in the Department of English and which is open to students studying BA(hons) degrees in English, English and Creative Writing, English and Film and English and American Literature. The objective of the session was to introduce the students to three key terms: 'adaptation', 'remediation', and 'transmedia', and to develop an understanding of the unique affordances of different gaming and storytelling platforms.

The key example used in the session was the video game *Dark Souls 3* (FromSoftware, 2016), a game that is part of a long-standing series that began in in 2009 with *Demon's Souls* (PS3), and then ran to three *Dark Souls* instalments published in 2011, 2014 and 2016. The most recent iteration, *Dark Souls* 3, was selected for use in the session as it has been produced on a number of platforms (PC, PS3, Xbox 360, PS4, Xbox One) as well as a tabletop game (Figure 2; Steamforged Games, 2017) and a graphic novel (Mann and Quah, 2016).

The session, run in a single room over a period of three hours, combined a brief interactive lecture (approximately 30 minutes) outlining the key terminology, before breaking down into a workshop in which the students were divided into three groups, each tasked with analysing a specific version of *Dark Souls* 3. The three versions used were the console version, the tabletop game, and the graphic novel.

Each group worked on a single 'text' for 45 minutes before moving on to the next version. The groups were asked to *"list the qualities that best describes each of the three versions of Dark Souls 3"* and to consider the ways in which the similarities and divergences they identified allowed them to reflect on (a) the specific affordances of the

three media, and (b) their understanding of adaptation, remediation and transmedia.

Finally, each group was required to write a short analysis (adapted from: Mäyrä 2008:50) comparing the ways in which game elements such as controls, game mechanics, visuals and possible social interaction are similarly or differently handled in the digital vs. non-digital versions of *Dark Souls*. The aim of this analysis was to help students develop an awareness of the possible unique affordances that digital and analogue technologies contribute to games.

The session, which one student described as the best seminar of their academic career, was demanding in terms of resources, necessitating the use of a PlayStation 4 console, a specifically designed version of the tabletop game, and copies of the graphic novel. That student numbers were relatively low (c. 15) and that we were able to get Alex Hall, one of the designers of the *Dark Souls: The Board Game* to attend the session, mitigated against the potential challenges of running the workshop.

While the lecture and workshop achieved the academic aims of the session, alongside delivering some industry-facing work pertaining to employability, it would be hard to replicate without specialist knowledge of the core materials and an interest in games and games design. Of the three case studies this is perhaps the most difficult to replicate and/or scale up for larger groups.

Figure 2: Dark Souls the tabletop game (Image Credit; Steamforged Games)

***Case Study Three: Collaboration and the imposter syndrome***

This case study concerns Level 7 MA students from the Manchester School of Art, and a session that was delivered as part of the *'SciArt'* unit. Sciart is the intersection between the arts and science, and whilst it has a somewhat contentious history we take it here to mean an interdisciplinary exploration of both disciplines and the liminal spaces in between. The game that was chosen for this session was Jun Sasaki's *A Fake Artist Goes to New York*, in which players take it in turns to contribute to the creation of a collaborative drawing. The 'twist' is that one of the players does not know what they are supposed to be drawing. The identity of this 'fake' artist is unknown to the other players, and they win the game if they manage to bluff their way through two rounds of collaborative drawing without revealing their identity. The purpose of using this game was to stimulate discussion for the students in relation to the role of the artist, and how SciArt and their individual practice fit into the wider society, in particular focussing on the unit learning objective of *"Communicating ideas, knowledge and concepts using a variety of modes"*. In playing the game, and in the discussions that followed, students were required to demonstrate decision-making in complex and unpredictable situations, whilst making sound judgements in the absence of complete data and communicating their conclusions clearly.

*A Fake Artist Goes to New York* is a straightforward game that can be explained in under a minute, takes 5-10 minutes to play (depending on the number of players), and whose main components are simply

Figure 3: the components of A Fake Artist Goes to New York are very minimal, which helps to make the game easy to explain and so quick to play (Image Credit: Oink Games)

paper and pens (Figure 3). After a brief introduction to the game, the students (16 out of a possible 18 attended this session) split into two groups and played the game several times, after which they led group discussions on issues that they faced in their practice with respect to 'authenticity' and 'imposter syndrome'. They also discussed the challenges and opportunities brought about by collaboration, and how this impacted their individual work and practice.

As discussed by Parkman (2016), imposter syndrome (or the imposter phenomenon) is an issue that affects many higher education students and can lead to the fear of failure and high levels of stress. The discussion of imposter syndrome amongst peers can help to address some of these issues and lead to positive changes in student morale, and in facilitating these conversations this session enabled a dialogue around these topics to be developed in a safe space. Throughout this session the students were very engaged with both the game and the subsequent discussion, and wanted to continue playing the game beyond the end of the session. In addition to achieving the learning objectives, the use of tabletop games in this session also had a lasting impact on at least one of the students, who was inspired to design a game for the summative assessment attached to this unit. This session demonstrated how tabletop gaming's 'magic circle' can create a safe space which can enable meaningful dialogue around academic topics, as well as those that are beneficial to a student's health and wellbeing.

**Beyond HE**

In addition to the objectives of this project, we were also able to develop learning materials for use outside of HE in informal learning environments. We are currently working with the Royal Society of Chemistry and the Society for Applied Microbiology to use commercially available, off-the-shelf tabletop games to develop dialogue around key topics in each of these fields, and the experiences of 'Games in the Curriculum' have helped us to consider the importance of agency, game literacy, and scalability in developing these resources. Furthermore, we have used this experience to help develop and deliver a series of tabletop game workshops aimed at 5-8-year olds that use Jean du Poël's dexterity-based game *PitchCar* (Figure 4) to teach participants about friction and Newton's laws of motion.

Figure 4: Pitchcar can be used as an effective learning tool to discuss the basic principles of Newtonian dynamics


**Conclusions**

Following the delivery of these seminars we met with the unit leaders to discuss the opportunities and challenges that the use of tabletop games had presented. Whilst in every instance it was felt that our two main objectives had been achieved (i.e. we had used tabletop games to achieve specific learning outcomes and had identified tabletop games that could be used to facilitate learning with undergraduate and postgraduate students), there were several limitations that need to be addressed when using tabletop games in an HE setting:

**1. Agency** – as demonstrated by the results of Case Study 1, it is necessary to work with students prior to any sessions that involve tabletop games. Doing so will help to inform the students of the potential value of tabletop games to the teaching and learning experience.

**2. Game Literacy** – in choosing tabletop games for use in a HE environment, it is also important to listen to the needs and experiences of the students so that games selected that are appropriate to the specific groups. For example, *Dark Souls: The Board Game* is a complex tabletop game that would not be suitable for groups of students who were not reasonably experienced gamers.

**3. Scalability** – whilst using commercially available, off-the-shelf games aids in the scalability of their use, it might be necessary to have several different tabletop games in order to achieve the learning outcomes for different sessions and cohorts of students. This could

make the use of tabletop games prohibitively expensive, especially given the challenges that stocking tabletop games would pose for academic libraries. This being said, tabletop games arguably provide a low-cost alternative to their digital counterparts (Mayer & Harris 2010).

In summary, tabletop games offer the potential for engaged teaching and learning in Higher Education, and as this project suggested, they can be used to meet subject-specific learning outcomes, to engender meaningful dialogue amongst students, and to facilitate learning in relation to employability and student engagement. However, in order to utilise commercial off-the-shelf tabletop games effectively in an HE setting it is important to consider the game literacy of the audience, and to take steps to ensure that the audience is aware of the value that they offer to the teaching and learning experience.

**References**

CELT. (2018) *Manchester Metropolitan's education strategy*. [Online] [Accessed on 25th July 2018]. http://www.celt.mmu.ac.uk/ltastrategy/

Bergmann, J. & Sams, A. (2012) *Flip your classroom: Reach every student in every class every day*. Eugene, OR: International Society for Technology in Education.

Bown, A. (2018) *The Playstation dreamworld*. Cambridge: Polity Press.

Caillois, R. (2001) *Man, play and games*, translated by M. Barash. Urbana & Chicago: University of Illinois Press.

Carl, D., Hall, A., Hart, M. & Loxam, R. (2017) *Dark Souls: The board game*. Trafford: Steamforged Games Ltd.

Crouch, C.H. & Mazur, E. (2001) 'Peer Instruction: Ten Years of Experience and Results.' *American Journal of Physics*, 69 pp. 970-7.

De Koven, B. (1978) *The well-played game*. New York: Doubleday.

Du Poël, J. (1995) *PitchCar*. Mérignac: Ferti Games.

FromSoftware. (2016) *Dark Souls III*. PS4. [Game] Tokyo: Bandai Namco Games.

Herro, D. & Clark, R. (2016) 'An academic home for play: Games as unifying influences in higher education.' *On the Horizon*, 24 pp. 17-28.

Huizinga, J. (2016) *Homo Ludens: A study of the play-element in culture*. Kettering, OH: Angelico Press.

Illingworth, S & Wake, P. (2018) *Catan: Global warming*. [Game] [Online] [Accessed on 26th September 2018] http://gamesresearchnetwork.org/catan/

Lean, J., Illingworth, S. & Wake, P. (2018) 'Unhappy families: using tabletop games as a technology to understand play in education.' *Association for Learning Technology,* 26(13) [Online] [Accessed on 26th September 2018] https://journal.alt.ac.uk/index.php/rlt/article/view/2027

Mann, G. & Quah, L. (2016) *Dark Souls, Volume 1*. London, Titan Comics.

Mayer, B. & Harris, C. (2010) *Libraries got game: Aligned learning through modern board games*. Chicago: American Libraries Association.

Mäyrä, F. (2008) *An introduction to game studies: Games in culture*. London: Sage.

Nadolski, R. J., Hummel, H. G., Van Den Brink, H. J., Hoeffakker, R. E., Slootmaker, A., Kurvers, H. J. & Storm, J. (2008) 'EMERGO: A methodology and toolkit for developing serious games in higher education.' *Simulation & Gaming*, 39 pp. 338-352.

Nerantzi, C. & James, A. (2015) 'A waterfall of questions: Or, can we afford not to play in HE?' 'Exploring Play in HE.' [Special Issue] *Creative Academic*, 2A, pp. 4-5.

Parkman, A. (2016) 'The imposter phenomenon in higher education: Incidence and impact.' *Journal of Higher Education Theory and Practice*, 16 pp. 51-60.

Parlett, D. (1999) *The Oxford history of board games*. Oxford: Oxford University Press.

Salen, K.  & Zimmerman, E. (2004) *Rules of play: Game design fundamentals.* Cambridge, MA: MIT Press.

Sasaki, J. (2012) *A Fake Artist Goes to New York*. [Game] Tokyo: Oink Games.

Teuber, K. (1995) *Catan.* [Game] Stuttgart: Kosmos Games.

Whitton, N. (2014) *Digital games and learning: Research and theory*. London: Routledge.

Whitton, N. & Moseley, A. (2012) *Using games to enhance learning and teaching: a beginner's guide.* London: Routledge.